

Patent Claims

1. An arrangement having transmission means for transmission of a signal and having reception means for reception of a reflection of the transmitted signal, with the transmission means having a transmission oscillator, characterized in that the reception means have an evaluation oscillator and in that the transmission oscillator can be excited quasi-phase coherently by the evaluation oscillator, and/or the evaluation oscillator can be excited quasi-phase coherently by the transmission oscillator.

2. The arrangement as claimed in claim 1, characterized in that the oscillators are connected to one another by a line means such that the transmission oscillator can be excited quasi-phase coherently by the evaluation oscillator and/or the evaluation oscillator can be excited quasi-phase coherently by the transmission oscillator.

3. The arrangement as claimed in one of the preceding claims, characterized in that the oscillators are arranged adjacent to one another such that the transmission oscillator can be excited quasi-phase coherently by the evaluation oscillator and/or the evaluation

oscillator can be excited quasi-phase coherently by the transmission oscillator.

4. The arrangement as claimed in one of the preceding claims,
5 characterized in that

the oscillators are unshielded from one another, such that the transmission oscillator can be excited quasi-phase coherently by the evaluation oscillator and/or the evaluation oscillator can be excited quasi-phase coherently by the transmission

10 oscillator.

5. The arrangement as claimed in one of the preceding claims, characterized in that

the arrangement has means for the oscillator which can be
15 excited quasi-phase coherently to be switched cyclically at a clock rate.

6. The arrangement as claimed in claim 5, characterized in that

20 the time for which the oscillator which can be excited quasi-phase coherently can be switched on is in the same order of magnitude as the reciprocal, or is less than the reciprocal, of the difference between the frequencies of the two oscillators in the steady state.

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7. The arrangement as claimed in claim 5 or 6,

characterized in that

the repetition rate of the clock, with which the oscillator which can be excited quasi-phase coherently is switched, is considerably higher than the frequency of the measurement
5 signal, and in particular is more than five times as high.

8. The arrangement as claimed in one of the preceding claims, characterized in that

the frequency of the transmission oscillator and/or of the
10 evaluation oscillator is variable.

9. The arrangement as claimed in one of the preceding claims, characterized in that

the frequency of the transmission oscillator or of the
15 evaluation oscillator is variable, while the evaluation oscillator or the transmission oscillator is a fixed-frequency oscillator.

10. The arrangement as claimed in one of the preceding claims,
20 characterized in that

the arrangement is an arrangement for distance measurements.

11. The arrangement as claimed in one of the preceding claims, characterized in that

25 the arrangement is a radar, in particular a radar whose frequency range can be tuned and/or a radar which can be

switched to two switching states between a short-range radar and a long-range radar.

12. A vehicle, a building or an industrial plant having an
5 arrangement as claimed in one of the preceding claims.

13. A method, in particular for distance measurement, in which case

- a transmission oscillator is excited quasi-phase coherently
10 by an evaluation oscillator and/or an evaluation oscillator is excited quasi-phase coherently by a transmission oscillator,
- a signal to be transmitted is produced by a transmission oscillator,
- the signal is transmitted,
- 15 - a reflection of the transmitted signal is received, and
- an evaluation signal is produced by the evaluation oscillator.

14. The method as claimed in claim 13,
20 in which the evaluation signal is mixed with the reflection of the transmitted signal.

15. The method as claimed in claim 13 or 14,
in which the transmission oscillator is excited quasi-phase
25 coherently repeatedly and cyclically by the evaluation oscillator, and/or the evaluation oscillator is excited quasi-

phase coherently, repeatedly and cyclically by the
transmission oscillator.